

1. A method for non-cellular display of 7-transmembrane receptors comprising the following steps:

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3. The method of claim 1 wherein the step of incorporating an attachment scheme to a receptor comprises incorporating a tag into an oligonucleotide.

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5. The method of claim 1 wherein the step of solubilizing the receptor comprises solubilizing by lysing cell membranes containing the receptor.

6. The method of claim 1 wherein the step of presenting the receptor in conjunction with a support comprises presenting by affinity coupling the receptor to a particulate substrate.

7. The method of claim 1 wherein the step of presenting the receptors in conjunction with a support comprises presenting on a support comprising at least one substrate selected from the group consisting of silica bead substrates, latex bead substrates and other bead substrates appropriate for flow cytometry.

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8. The method of claim 7 wherein the step of presenting the receptors in conjunction with a support comprises presenting on a support comprising a Ni^{2+} silica bead.

9. The method of claim 1 wherein the step of presenting the receptors in conjunction with a support comprises presenting a fluorescently labeled receptor.

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10. The method of claim 1 further comprising the step of (d) presenting at least one ligand to bind to the receptor.

11. The method of claim 10 wherein the step of presenting at least one ligand to bind to the receptor comprises presenting at least one fluorescently labeled ligand.

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12. The method of claim 10 wherein the step of presenting at least one ligand to bind the receptor comprises presenting a library of ligands.

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13. The method of claim 10 wherein the step of presenting at least one ligand to bind the receptor comprises presenting at least one ligand on a support.

14. The method of claim 10 wherein the step of presenting at least one ligand to bind to the receptor comprises presenting at least one ligand associated with a magnetically labeled support.

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15. The method of claim 10 further comprising the step of (e) combining the receptor and ligand to accomplish binding.

16. The method of claim 15 further comprising the step of (f) sorting the bound receptor ligand pairs by fluorescence.

17. The method of claim 16 wherein the step of sorting the bound receptor ligand pairs by
5 fluorescence comprises sorting the bound receptor ligand pairs by flow cytometry.

18. The method of claim 17 wherein the step of sorting the bound receptor-ligand pairs by
flow cytometry comprises sorting the bound receptor-ligand pairs by size.

10 19. The method of claim 16 further comprising the step of (g) sorting the bound receptor-
ligand pairs by magnetic field.

20. The method of claim 10 further comprising the step of (h) presenting a molecule to block
the binding of the receptor with the ligand.

15 21. The method of claim 20 wherein the step of presenting a molecule to block the binding of
the receptor with the ligand comprises presenting at least one molecule selected from the group
consisting of soluble and bead-bound molecules.

20 22. The method of claim 20 wherein the step of presenting a soluble molecule to block the
binding of the receptor with the ligand comprises presenting at least one drug to block the binding of the
receptor with the ligand.

25 23. The method of claim 1 wherein the step of presenting the receptors in conjunction with a
support comprises presenting the receptors in conjunction with a micelle.

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30. The method of claim 24 wherein the step of presenting a receptor within a micelle comprises presenting a receptor having an acceptor for its own fluorescence.

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41. The method of claim 40 wherein the step of presenting at least one molecule to be studied to displace the receptor from the ligand comprises presenting a library of molecules on a bead.

5 42. The method of claim 24 further comprising the step of (e) detecting ligand binding to receptor using resonance energy transfer (RET).

43. The method of claim 42 wherein the step of detecting ligand binding to receptor using resonance energy transfer (RET) comprises detecting ligand binding using at least one detection device selected from the group consisting of a flow cytometer, a plate reader, a spectrofluorometer, and any other fluorescence detector.

10 44. The method of claim 42 wherein the step of detecting ligand binding to receptor using resonance energy transfer comprises detecting using RET between the fluorescent donor and the
15 fluorescent acceptor.

45. The method of claim 43 wherein the step of measuring the resonance energy transfer resulting from the displacement comprises measuring a diminished RET signal.

20 46. The method of claim 24 further comprising after step (b) step (f) exposing the receptor to G-protein.

25 47. A drug discovered by the process comprising the following steps:
a) presenting a receptor within a micelle;
b) presenting a ligand on a bead to associate with the receptor;
c) presenting the drug to be studied to displace the receptor from the ligand; and
d) measuring the resonance energy transfer resulting from the displacement.

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